



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,566	08/01/2003	Philip Mattos	851963.411	2600
500	7590	06/25/2007	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			WANG, TED M	
701 FIFTH AVE			ART UNIT	PAPER NUMBER
SUITE 5400			2611	
SEATTLE, WA 98104			MAIL DATE	DELIVERY MODE
			06/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

SK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/632,566	MATTOS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ted M. Wang	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 April 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,6,10-12,14-16,19,22-24 and 26-30 is/are rejected.
- 7) Claim(s) 4, 5, 7-9, 13, 17, 18, 20, 21, 25 and 31 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10 April 2007 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. The Affidavit filed on 04/09/2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Best (US 7,061,972) reference.
2. The evidence submitted is insufficient to establish a conception of the invention or a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Best (US 7,061,972) reference. While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See *Mergenthaler v. Scudder*, 1897 C.D. 724, 81 O.G. 1417 (D.C. Cir. 1897). Simply states "We were in possession of the invention defined by the claims of the application identified above ("the present application") prior to April 4, 2002." is insufficient to overcome the Best (US 7,061,972) reference.

The affidavit or declaration must state FACTS and produce such documentary evidence and exhibits in support thereof as are available to show conception and completion of invention in this country or in a NAFTA or WTO member country (MPEP § 715.07(c)), at least the conception being at a date prior to the effective date of the reference. Where there has not been reduction to practice prior to the date of the reference, the applicant or patent owner must also show diligence in the completion of his or her invention from a time just prior to the date of the reference continuously up to

Art Unit: 2611

the date of an actual reduction to practice or up to the date of filing his or her application (filing constitutes a constructive reduction to practice, 37 CFR 1.131).

***Response to Arguments***

3. Applicant's arguments, filed on 04/09/2007, have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitations. Examiner's response has been addressed in the above paragraph with respect to Response to Amendments.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 6, 10-12, 14-16, 19, 22-24 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Best (US 7,061,972) in view of Kohli (US 6,574,558).

- With regard claims 1 and 10, Best discloses a GPS receiver for processing a plurality of received broadcast signals comprising:
  - a digital sampler (column 3 lines 41-44);
  - a memory (Fig.2 element 44 and column 4 line 34); and

a plurality of correlators (Fig.2 elements 50, 60A and 60B and column 6 lines 7-8), being arranged to be operable in two modes wherein:

in an acquisition mode (column 6 lines 7-8):

the digital sampler samples the received broadcast signals to produce a digital bit stream at a first bit rate (column 2 lines 48-51, column 5 lines 9-27 and column 5 lines 38-42, where the real time rate is, for example, 2.5 MHz, the first bit rate.);

the memory to receive the digital bit stream and to output at a second bit rate being higher than the first bit rate (column 2 lines 48-51, column 5 lines 28-32 and column 5 lines 38-42) to the plurality of correlators (Fig.2 elements 50, 60A and 60B and column 6 lines 7-8);

the plurality of correlators (Fig.2 elements 50, 60A and 60B and column 6 lines 7-8) receive the digital bit stream at the second bit rate (column 2 lines 48-51, column 5 lines 28-32 and column 5 lines 38-42), and each of the plurality of correlators correlates the digital bit stream with a same locally generated version of one of the different known digital codes (Fig.2 elements 46, 64A and 64B, column 5 lines 61- 67 and column 6 lines 1-22); and

in a tracking mode (column 7 lines 1-5):

the digital sampler samples the received broadcast signals to produce a digital bit stream at the first bit rate (column 2 lines 48-51, column 5 lines 9-27 and column 5 lines 38-42, where the first bit rate is the real time rate, 2.5MHz) and provides that digital bit stream direct to each of the plurality of correlators

(Fig.2 elements 50, 60A and 60B and column 7 lines 1-12 and 43-47), each correlator correlates the digital bit stream with a different locally generated version of one of the known digital codes (Fig.2 elements 46, 64A and 64B and column 7 lines 5-15 and column 7 lines 43-57).

Best discloses all of the subject matter as described in the above paragraph except for specifically teaching a sample reducer that reduces bits of the digital bit stream by combining groups of N bits together to produce a reduced digital bit stream.

However, Kohli teaches a sample reducer (Fig.5 element 118) that reduces bits of the digital bit stream by combining groups of N bits (column 17 lines 22-24) together to produce a reduced digital bit stream (column 17 lines 21-27, where the digital filter 118 reduces the signal from the rate of  $18.67 f_0$  to  $2 f_0$ ) in order to reduce the size of the memory connected to it so that the cost is reduced.

Kohli further teaches a GPS receiver that the tracking and acquisition process circuit can be implemented with a semiconductor integrated circuit (Fig.5 and column 15 lines 55-65) in order to provide fast reacquisition capabilities and reduce the number of gates required on the ASIC to reduce the cost.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the digital filter 118 and memories 120, 122 as taught by Kohli into Best's acquisition circuitry to replace

Art Unit: 2611

the signal memory 44 in order to reduce the size of the memory connected to it so that the cost is reduced and further implement the acquisition and tracking processes circuit of the Best's in an integrated circuit as taught by Kohli so as to provide fast reacquisition capabilities and reduce the number of gates required on the ASIC to reduce the cost.

- With regard claim 2, Best discloses all of the subject matter as described in the above paragraph except for specifically teaching the sample reducer comprises an adder to add the groups of N bits.

However, Kohli teaches the sample reducer comprises an adder to add the groups of N bits (column 17 lines 23-25) in order to reduce the size of the memory connected to it so that the cost is reduced.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the digital filter 118 with an adder to add the groups of N bits and memories 120, 122 as taught by Kohli into Best's acquisition circuitry to replace the signal memory 44 in order to reduce the size of the memory connected to it so that the cost is reduced.

- With regard claim 3, Best and Kohlis' modified circuit as described in claim 2 further teaches the adder provides a digital output representative of a value of a sum of the N bits (column 17 lines 22-35, Kohli's reference) in order to reduce the filter complexity and improve the data processing speed.
- With regard claim 6, Best further discloses wherein in acquisition mode the second bit rate is a factor M higher than the first bit rate (column 5 lines 38-42).

Art Unit: 2611

- With regard claim 11, Best discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein the memory comprises a circulating shift register.

However, Kohli further teaches wherein the memory comprises a circulating shift register (Fig.5 element 122 and column 17 lines 26-43, where shift register element 122 has the exact same structure as that of a circulating shift register as defined in Fig.3 element 51 of the instant application.) to receive the reduced digital bit stream (Fig.5 element 119) and to output the reduced digital bit stream at the second bit rate (Fig.5 element 122 output, CAP/PUT and 108 output, DOP/OUT) to the plurality of correlators in order to provide the parallel input samples to 12 channel blocks 108 for Doppler correction (column 17 lines 36-43) so that the communication quality can be improved.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the circulating shift register 122 along with digital (decimation) filter 118 as taught by Kohli to replace Best's memory arrangement 44 so as to improve the communication quality.

- With regard claim 12, Best and Kohlis' modified circuit as described in claim 11 further teaches wherein the circulating shift register receives the reduced digital bit stream at a rate equal to the first bit rate divided by N (column 17 lines 22-27, Kohli's reference) and circulates at the second bit rate (Fig.5 element 122 output, CAP/PUT and 108 output, DOP/OUT and column 17 lines 36-43, Kohli's reference).

Art Unit: 2611

- With regard claim 14, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 15, which is a method claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 16, which is a method claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 19, which is a method claim related to claim 6, all limitation is contained in claim 6. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claims 22 and 23, which are apparatus claims related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 24, Best and Kohlis' modified circuit as described in claim 22 further teaches wherein the digital codes for the correlator (column 4 line 66, Best's reference) comprises a locally generated version of the digital code (Fig.2 elements 46 and 64A and 64B and column 6 lines 7-15 and 37-57, Best's reference) of the received broadcast signal.

- With regard claim 26, which is an apparatus claim related to claim 6, all limitation is contained in claim 6. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 27, which is an apparatus claim related to claim 10, all limitation is contained in claim 10. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 28, which is an apparatus claim related to claim 11, all limitation is contained in claim 11. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claims 29 and 30, which are system claims related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

***Allowable Subject Matter***

6. Claims 4, 5, 7-9, 13, 17, 18, 20, 21, 25 and 31 are objected to as being dependent upon an objected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. Copending reference 10/632,530 (US 2004/0122881 A1) is cited because they are put pertinent to the integrated circuit for code acquisition. However, none of references teach detailed connection as recited in claim.

Art Unit: 2611

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M Wang  
Examiner  
Art Unit 2611

Ted M. Wang



DACHA  
PRIMARY EXAMINER